

Australian/New Zealand Standard™

**Household and similar electrical
appliances—Safety**

**Part 2.21: Particular requirements for
storage water heaters
(IEC 60335-2-21 Ed 6, MOD)**



AS/NZS 60335.2.21:2013

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-002, Safety of Household and Similar Electrical Appliances and Small Power Transformers. It was approved on behalf of the Council of Standards Australia on 2 October 2013 and on behalf of the Council of Standards New Zealand on 20 September 2013.

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The following are represented on Committee EL-002:

Australian Industry Group
Australian Retailers Association
Business New Zealand
Consumer Electronic Suppliers Association, Australia
Consumers' Federation of Australia
Electrical Regulatory Authorities, Australia
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Household and similar electrical appliances—Safety

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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

AS/NZS 60335.2.21:2013**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –****Part 2.21: Particular requirements for storage water heaters****Foreword**

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-002- Safety of Household and Similar Electrical Appliances and Small Power Transformers to supersede AS/NZS 60335.2.21:2002 three years from the date of publication. During this period it is anticipated that regulatory authorities will approve storage water heaters to either standard.

The principal changes in this edition as compared with the fifth edition of IEC 60335-2-21 and its amendments are as follows (minor changes are not listed).

- added requirements for immersion heater units (fixed immersion heaters);
- removed reference to ISO 13732-1 from Bibliography.

The objective of this Standard is to provide manufacturers, designers, regulatory authorities, testing laboratories and similar organizations with safety requirements designed to give the user protection against hazards that might occur during normal operation and abnormal operation of the appliance and which may be used as the basis for approval for sale or for connection to the electricity supply mains in Australia and New Zealand

The text of IEC 60335-2-21 Ed 6, prepared by IEC Technical Committee TC 61, was submitted to the Standards Australia/Standards New Zealand Combined Procedure (dual public comment and committee vote) for adoption of the IEC standard as a Standards Australia/Standards New Zealand joint standard.

This Standard is an adoption with national modifications of the sixth edition of IEC 60335-2-21, *Household and similar electrical appliances – Safety – Part 2-21: Particular requirements for storage water heaters*. It has been varied as indicated to take account of Australian and New Zealand conditions.

This part 2 has to be used in conjunction with the latest edition of AS/NZS 60335.1 Household and similar electrical appliances – Safety – Part 1: General requirements and its Amendments. It was established on the basis of AS/NZS 60335.1:2011.

This part 2 supplements or modifies the corresponding clauses of AS/NZS 60335.1 so as to convert it into the Australian/New Zealand Standard: Safety requirements for storage water heaters.

When a particular subclause of Part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. When this standard states "addition", "modification" or "replacement", the relevant text of Part 1 is to be adapted accordingly.

NOTE 1 The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;
- additional annexes are lettered AA, BB, etc.;
- subclauses, notes and annexes that are additional to those in the IEC standard are prefixed with the letters AZ.

NOTE 2 The following print types are used:

- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in small roman type.

Words in **bold** in the text are defined in Clause 3.

p NOTE 3 In this document, p is used in the margin to indicate instructions for preparing a consolidated version.

The essential safety requirements in AS/NZS 3820¹ that could be applicable to requirements for storage water heaters are covered by this standard.

The national variations to the IEC 60335-2-21 Ed 6 form the Australian and New Zealand national variations for purposes of the IECEE scheme for recognition of results of testing to standards for safety of electrical equipment (the CB scheme).

¹ AS/NZS 3820 *Essential safety requirements for electrical equipment*

The text of the International Standard IEC 60335-2-21 Ed 6 was approved as a joint Australia/New Zealand Standard with the agreed national variations as given below.

AUSTRALIAN NATIONAL VARIATIONS

The following national variations to this Part 2 are additional to those listed in the national variations of AS/NZS 60335.1:2011.

1 Scope

- p *Replace* the first Note by the following variation

However **immersion heater units** intended to be retrofitted in a **heat exchange closed water heater** are prohibited unless:

- the **immersion heater unit** has been tested with the tank models and brands listed in the instructions of the **immersion heater unit**;
- the tank models and brands list the models of the **immersion heater units** that can be retrofitted.

3 Terms and definitions

- p **3.104** After Note to entry 3 *insert* the following variation:

Note to entry 301 Tank-attached and side-fed storage water heaters as described in AS 1056.1, are different forms of a **cistern-type water heater** and unless otherwise specified, are subject to the requirements that are specified for **cistern-type water heaters**.

7 Marking and instructions

- p **7.1** *Replace* the first paragraph with the following variation:

Appliances, other than **cistern-fed water heaters** and **cistern-type water heaters** shall be marked with the **rated pressure** in pascals.

Cistern-fed water heaters shall be marked with the **rated pressure** in working head of water in metres.

Closed water heaters shall be marked with the substance of the following warning:

WARNING: The valve or drain valve outlet pipe must not be sealed or blocked.

Closed water heaters shall be marked with the relief valve setting in kPa and power rating in kW.

Closed water heaters intended for direct connection to the water main shall be marked with a statement that a temperature-operated relief valve is to be fitted in the installation unless it is incorporated in the appliance.

NOTE This valve may be combined with the pressure relief valve if this valve is fitted to the hot water side of the **storage water heater**.

Heat exchange water heaters shall be marked with a statement that a pressure relief valve is to be fitted in the installation unless it is incorporated in the heat exchanger of the appliance.

Replace the fourth paragraph with the following variation:

Closed water heaters having a **rated pressure** less than 0,85 MPa and **low pressure water heaters** shall be marked with a statement that a pressure reducing valve is to be fitted in the installation.

- p **7.12** After the last paragraph *insert* the following variation: